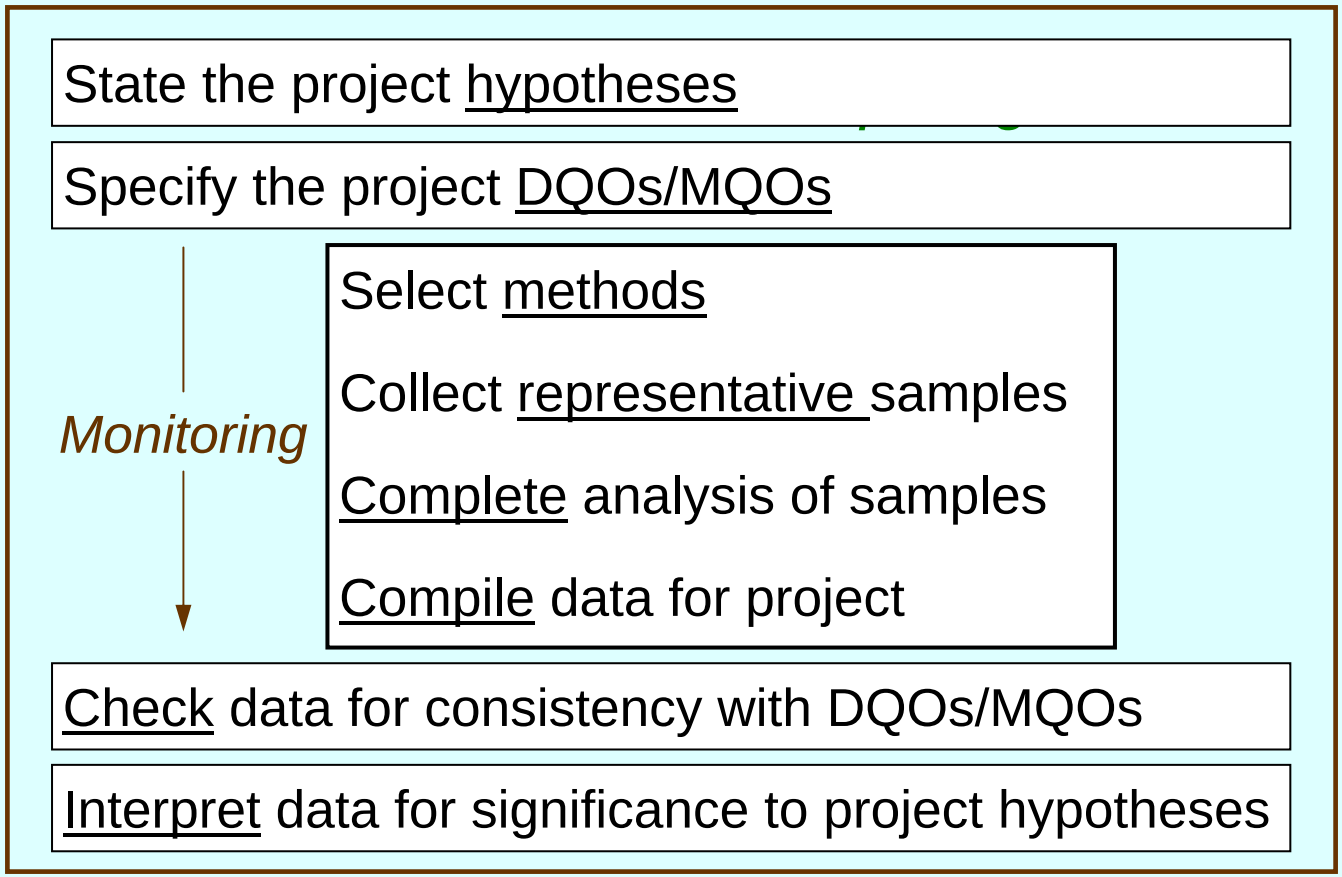
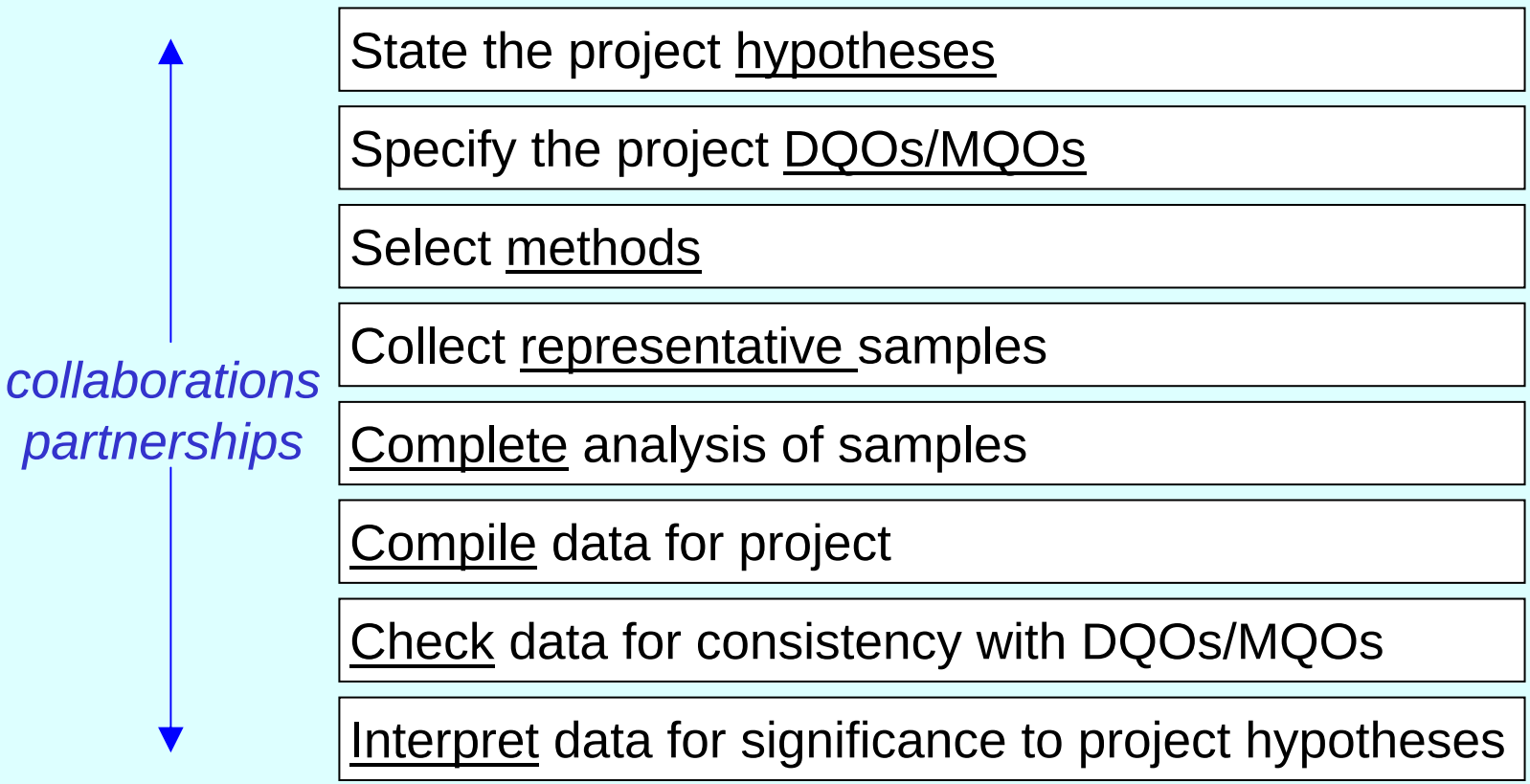
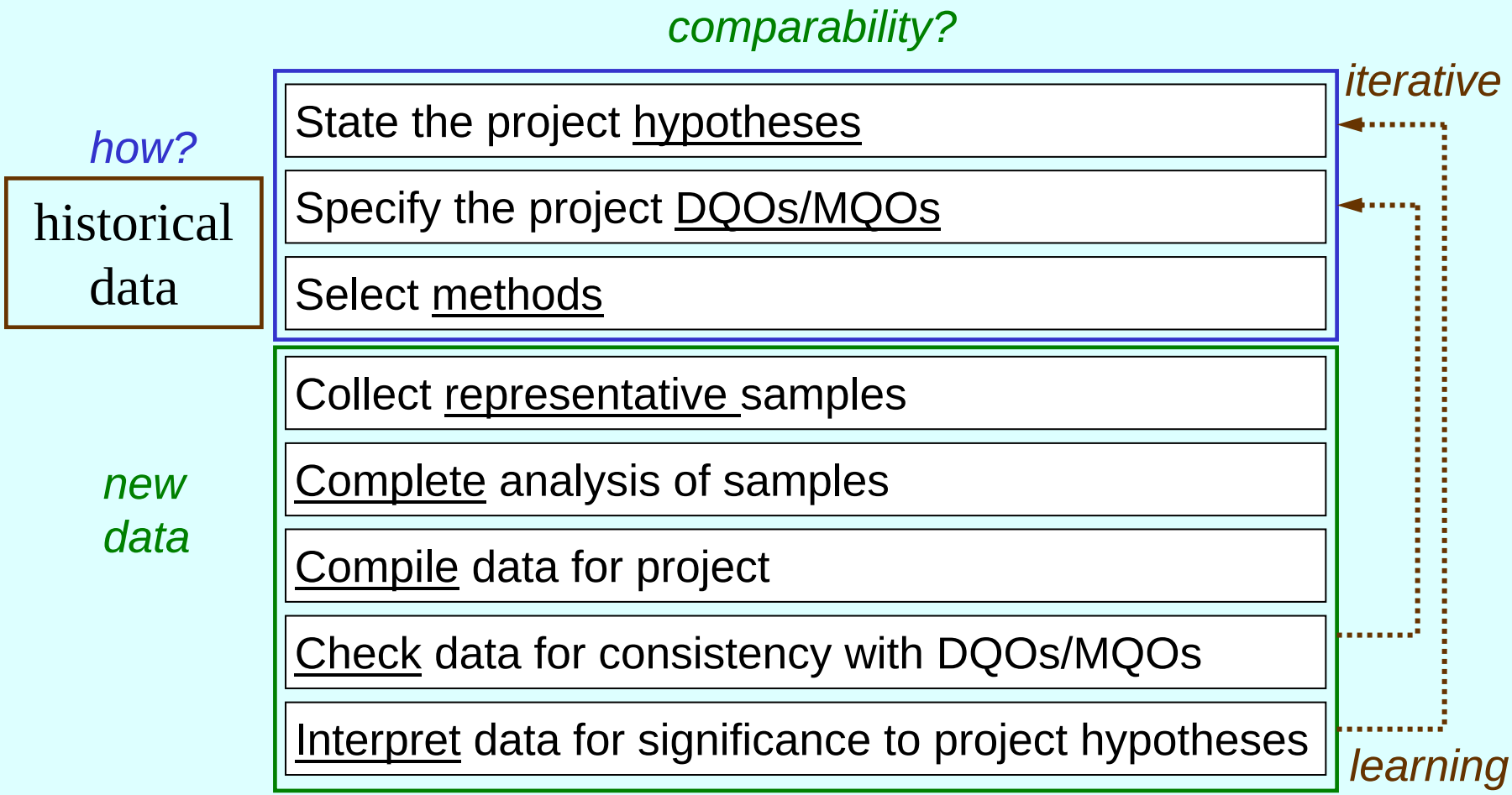
The DQO/MQO process



The DQO/MQO process



The DQO/MQO process



NATIONAL WATER QUALITY MONITORING COUNCIL

Working Together for Clean Water

NWQMC

Exploring New & Emerging Methods & Technologies

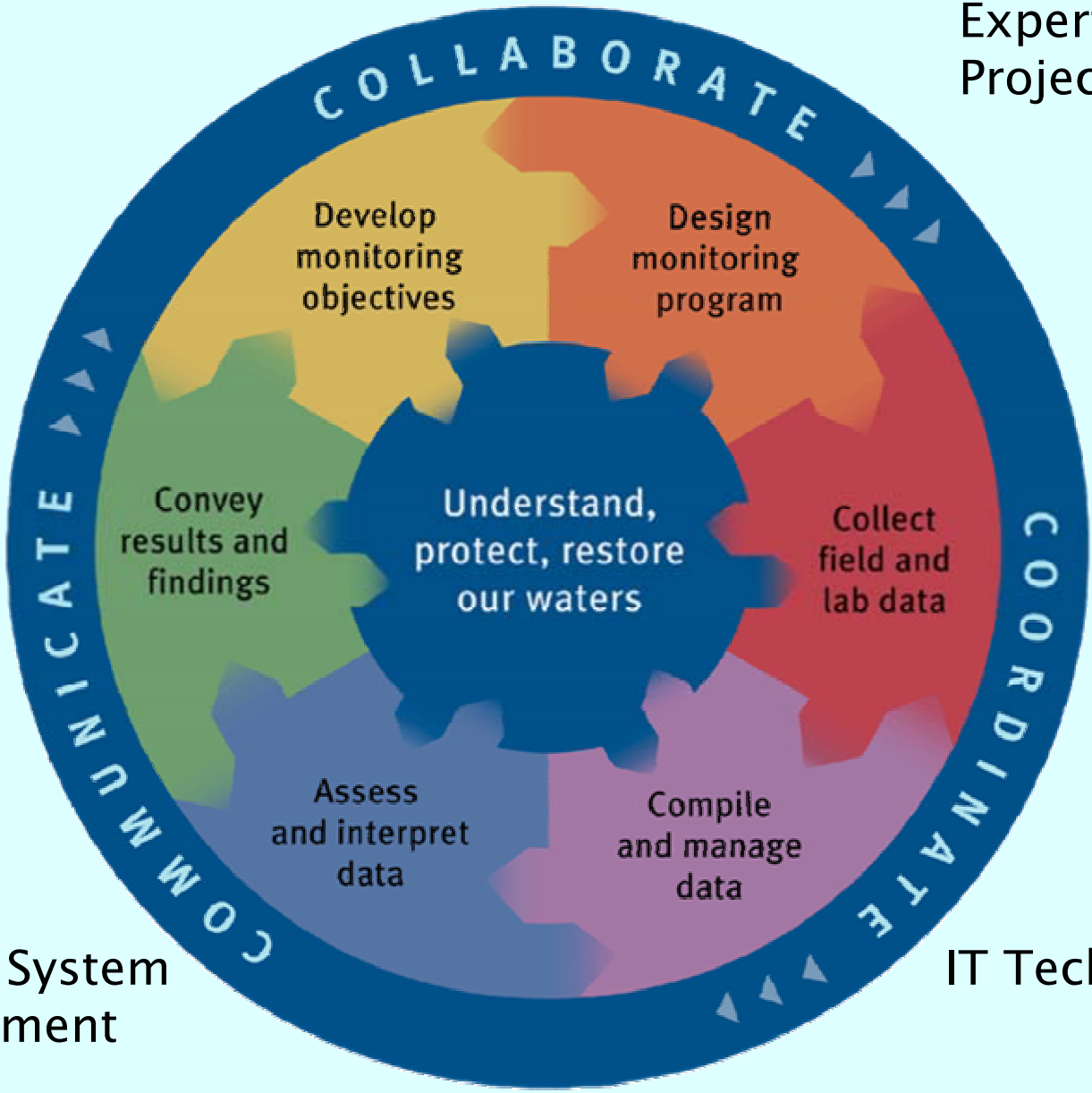
Expert System
Project Planning

Innovative
Measurement
Techniques

IT Technologies

Expert System
Assessment

Web-
based
Tools



What is the Value of New/Emerging Technologies?

- Higher quality data to present a more realistic picture
- Can be faster, better, and cheaper
  - Speed can lead to additional information
  - Speed assists with turn around time in the field
  - Speed of analysis required for water security applications
  - Yields higher quality and/or different information
  - Lower cost is critical in some cases
- Better answer questions on different spatial scales
- Approved methods do not meet measurement requirements

What is the Value of New/Emerging Technologies?

- Real time data on the web provides much additional information
- New technologies can identify new concerns
- Management related issues
  - Increased program efficiencies
  - Better able to meet new project requirements
  - Better able to satisfy public concerns
  - Better able to communicate information to decision-makers and legislators

What are the Barriers/Challenges to Moving Forward?

- Acceptance of results by data users
- Varying performance characteristics – unknown false positive and negative rates
- Methods approval process
- Links must be established between monitoring needs and available new technologies
- High cost for developer

What are the Barriers/Challenges to Moving Forward?

- Current water quality standards can provide disincentives for new technologies – written in specific units, parameters, etc.
- Organizational culture – resistance to change
- Desire for consistency – status and trends
- Coordination/logistics

What is Needed to Move Forward?

- Build monetary incentives and requirements into monitoring programs for exploring new technologies
- Create more of a market-based demand for new technologies
- Top-down directive to develop new technology – e.g., perchlorate
- Communicate specific monitoring interests to partners for potential collaborations – e.g., perchlorate
- Consider using new technologies in their infancy in monitoring programs

What is Needed to Move Forward?

- Bring stakeholders to the table to mesh interests
- Regulatory acceptance
- Use of PBS
- Education – training courses, workshops for practitioners and program managers
- Use new technology to set policy
- Comparison of old and new methods – status and trends
- Pursue integration of web services and geographic info services with data elements

What are Success Stories, Lessons Learned, and Tools at Conference That You Can Apply?

- NEMI
- New technology in analysis of sediments
- Technologies related to water security
- Toxicity testing
- Microbial monitoring
- Remote sensing – added section to Standard Methods
- Chemical, microbiological, and biological water quality data elements
- Vendor info

What is Role of National Council and Stakeholders in Moving Theme Forward?

- Factsheet and professional publication on new technologies
- Highlight success stories
- Create Council newsletter
- Sponsor short courses
- Guidance on implementation of the Framework in context of new technologies

What is Role of National Council and Stakeholders in Moving Theme Forward?

- ACWI to provide recommendations on prioritization and use of new technologies
- Clearinghouse for information on new technologies